

Regeln

You have 20 minutes to submit answers. There are 7 questions and a correct answer is always a positive real number i.e. question i has answer $\theta_i \in \mathbb{R}_+$ for $i = 1, 2, \dots, 7$. Submissions are made in the form of an interval:

$$[\text{Min}_i, \text{Max}_i]$$

Note that both endpoints are included. Each team has 11 guesses hence multiple submissions for questions is possible although the score, and hence the correctness of the guess, will always be based on the **latest** submission to the question. Submissions can be made throughout the quiz. The team's score is given by the formula:

$$\left(10 + \sum_{i:\text{Min}_i \leq \theta_i \leq \text{Max}_i} \left\lfloor \frac{\text{Max}_i}{\text{Min}_i} \right\rfloor \right) \cdot 2^{7-\#\text{correct guesses}}$$

Where $\lfloor \cdot \rfloor$ is the floor function.

Hence, at the beginning of the quiz all teams have a score of

$$(10 + 0) * 2^{7-0} = 1280$$

When the time is up, the team with the **lowest** score wins.

When submitting an interval it must clearly state:

- Team
- Question
- Interval.

Using scientific notation is allowed but must follow the conventions of R e.g.:

$$100 = 1\text{e}2$$

$$93.000 = 93\text{e}3$$

$$1.010.000.000 = 101\text{e}7$$

etc.

After submission the team (and everybody else) will be able to see whether the guess is correct or not and if so the value of the answer in the sum i.e. $[\text{Max}_i/\text{Min}_i]$ as well as the updated total score.

Fragen

1. Let $\mathbb{1}_{(u)}^i$ be the indicator function of person i being alive at time u .

Let,

$$o(x, y) = \int_{\text{1st Jan. 1800}}^{\infty} \mathbb{1}_{(u)}^x \mathbb{1}_{(u)}^y du$$

with unit of u being days.

what is

$$1 + \lfloor o(a, b) \rfloor$$

for $a = \text{Pablo Picasso}$, $b = \text{Marshall Bruce Mathers III}$.

2. The Olympic-class ocean liners were a trio of British ocean liners built by the Harland & Wolff shipyard for the White Star Line during the early 20th century. They were Olympic (1911), Titanic (1912) and Britannic (1914). While Olympic, the lead vessel, had a career spanning 24 years and was retired and sold for scrap in 1935, her sisters would not see similar success: Titanic struck an iceberg and sank on her maiden voyage and Britannic was lost during World War I after hitting a mine off Kea in the Aegean Sea before she could enter passenger service, becoming the largest ship lost in the First World War. How many were killed during the sinking?
3. The Turkish footballer Hakan Sukur goal against South Korea in the third-place match of the 2002 FIFA World Cup entered the record books being the fastest scored goal in FIFA world cup history. In how many seconds was the goal scored?
4. The Deepwater Horizon oil spill (also referred to as the "BP oil spill") was an industrial disaster that began on April 20, 2010 off of the coast of the United States in the Gulf of Mexico on the BP-operated Macondo Prospect. Considered to be the largest marine oil spill in the history of the petroleum industry and estimated to be 8 to 31 percent larger in volume than the previous largest, the Ixtoc I oil spill, also in the Gulf of Mexico operated by Mexico's state-owned oil company Pemex (Petróleos Mexicanos). How many weeks prior to the BP oil spill did the Ixtoc I oil spill take place?
5. Total border length of completed Berliner Mauer.
6. Let $BD(x)$ be the release date of x . Using difference in days between i and j for evaluating the expression $BD(i) - BD(j)$ what is

$$\mathcal{D}_I = \min_{i,j \in I} (BD(i) - BD(j))$$

for $I = \{\text{The Beatles Original UK studio albums}\}$

7. How many men have won 'Den store bagedyst'?